

REMARKS

The Office Action and cited references have been reviewed. Claims 1-44 are rejected and remain pending. Claims 1-3, 5, 13, 17, 20, 22, 24, 27, 31-35, and 37-38, have been amended. Support for the amendments is found generally within the application and specifically as noted below. Consideration of the pending claims is respectfully requested.

Rejection of Claims under 35 U.S.C. §112

The Office has rejected claims 10, 28, and 39 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. In particular, the Office Action has indicated that “It is still unclear how a flow path can pass through an outlet flange but be as far away as possible from that flange as well as making the flow path eccentric.” It is respectfully submitted that the Office is misreading the claims.

First, each of claims 10, 28, and 39 generally recite the limitation that the inlet passage is configured to generate a flow path that is eccentric to the inlet pipe. As FIG. 2 very clearly depicts, the inlet passage (36) first biases the fluid upwardly (see, e.g., reference number 34₁). Thereafter, the inlet passage (36) bends and causes the fluid to curve downwardly toward the outlet flange 42. The movement of the fluid in this manner is generally depicted by the arrows (34). In each instance, the arrows 34 are either canted or completely transverse relative to the direction that the fluid will flow through the upstream piping (40) (from left to right in FIG. 2). This results in the flow path being eccentric to the inlet pipe as claimed.

Next, each of claims 10, 28, and 39 generally recites a flow path immediately adjacent to the inlet pipe (see, e.g., reference number 34₁ in FIG.2) that is as far away as possible from an outlet flange (42). The Office Action’s focus on the flow path passing through the outlet is misplaced. To perform as noted in the application, the flow path is first directed upwardly away from the outlet flange and is then curved back toward the outlet flange. Because of the limited amount of space in the valve, for the valve to accomplish this fluid directing function the flow path at 34₁ should be placed as far away from the outer flange 42 as needed and/or possible. It is respectfully submitted that a limitation of the flow path immediately adjacent (see 34₁) to the inlet pipe (40) being as far away as possible from the outlet flange (42) is definite and clear.

In light of these clarifying remarks, it is respectfully requested that the rejection be withdrawn.

Rejection under 35 U.S.C. §102

Claims 1-8, 11, 16, 17, 19-23, 35, 37, 38-40, 42, and 44 under 35 U.S.C. §102(b) have been rejected as being anticipated by U.S. Pat. App. No. 4,413,646 to Platt et al. (hereinafter "Platt"). This ground of rejection is respectfully traversed. Reconsideration of the rejection in view of the following comments is respectfully solicited.

It is axiomatic in the patent law that to reject a claim under 35 U.S.C. §102, each and every limitation must be found, expressly or inherently, in a single reference and arranged as required by the claims such that the reference discloses the identical invention. *See* MPEP 2131. Anticipation is not established if, in reading a claim on something disclosed in a reference, it is necessary to pick, choose, and combine various portions of the disclosure not directly related to each other by the teachings of the reference. *See Ex parte Beuther*, 71 USPQ2d 1313 (BdPatApp&Int 2003), citing *In re Arkley*, 172 USPQ 524, 526 (CCPA 1972). A reference applied as anticipatory of the claimed invention under 35 U.S.C. §102 must be enabling so as to place one of ordinary skill in the art in possession of the claimed invention. *See Akzo N.V. v. United States Int'l Trade Commission*, 808 F.2d 1471, 1479, 1 USPQ2d 1241, 1245 (Fed. Cir. 1986) cert. denied, 482 U.S. 909, (1987); *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990). As explained in the often-cited treatise *Chisum on Patents* "to constitute an anticipation, a printed publication must describe the invention. The description must be adequate to a person with ordinary skill in the art to which the invention pertains. By the weight of authority, the description must enable such a person not only to comprehend the invention but also to make it." That is, in order for a reference to be used to construct an anticipation rejection under 35 U.S.C. §102, the reference must enable one of skill in the art to make and use the claimed invention. *See Bristol-Meyers Squibb Co. v. Ben Venue Laboratories, Inc.* 246 F.3d 1368, 1374, 58 USPQ2d 1508 (Fed. Cir. 2001). Specifically, "even if the claimed invention is disclosed in a printed publication, that disclosure will not suffice as prior art if it was not enabling." *Paperless Accounting, Inc. v. Bay Area Rapid Transit Sys.*, 804 F.2d 659, 665, 231 USPQ 649, 653 (Fed. Cir. 1986).

It is respectfully submitted that Platt does not disclose or suggest the invention claimed by claims 1-8, 11, 16, 17, 19-23, 35, 37, 38-40, 42, and 44, and therefore cannot anticipate these claims because it fails to teach each and every limitation required by these claims as is required by 35 U.S.C. §102 and explained below.

In the rejection of claim 1, the Office Action states that the “stepped portion” of Platt anticipates the “nozzle throat” of Applicants’ claimed invention. Claim 1 has been amended to more clearly define the invention and present the claim in better form for consideration.

As presently written, claim 1 recites a “sloped nozzle throat.” The sloped nozzle throat has surfaces tangential to a direction of fluid flow to inhibit flow separation. In clear contrast, as emphasized by the Patent Office in both the present and prior Office Actions, the nozzle throat of Platt is “stepped.” The stepped nature of the Platt nozzle throat will cause substantial flow separation, especially in sonic flow valves.

Also, claim 1 recites “an uninterrupted annular converging contoured restriction.” The valve disclosed by Platt includes a plurality of pillars (see reference number 35 in FIG. 1 of Platt) that engage with recesses in the valve body. In each of the open and closed positions, at least one of the pillars and the recesses interrupt the inner wall of Platt, which the Patent Office states is a converging contoured restriction. Therefore, the portion of the valve that the Office Action points to as a converging contoured restriction is not uninterrupted as recited in claim 1. As well known by those skilled in the art, and recognized in the Specification of the present application at paragraph [0030], a “stepped portion” such as in Platt will cause flow separation and be very detrimental to sonic flow.

Also, any attempt to modify the “stepped portion” of Platt in an effort to anticipate the sloped nozzle throat of Applicants’ claimed invention would change the principle of operation of Platt. It is respectfully submitted that such a modification is prohibited by the M.P.E.P. (see M.P.E.P. 2143.01). In view of the foregoing, it is respectfully requested that the rejection of claim 1 be withdrawn.

Claims 2-8, 11, and 16 depend from and include the limitations of claim 1 and are believed to be patentable for the reasons stated above for claim 1. It is respectfully requested that the rejection of claims 2-8, 11, and 16 be withdrawn.

With respect to independent claim 17, Platt discloses a valve needle having a nearly cylindrical portion upstream of an axial location where the valve needle begins to taper. Claim 17 has been amended to more clearly define the invention and present the claim in better form for consideration. Platt does not disclose a nearly cylindrical portion upstream of an axial location where the valve needle begins to taper from upstream to downstream. As shown in FIG. 1 of Platt, the valve needle of Platt begins to taper immediately where the valve needle abuts the plug. Therefore, the cylindrical area is not upstream of the axial

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location where the valve needle begins to taper. In fact, the cylindrical area is downstream of where the valve needle first begins to taper. In light of the directional reference for the beginning of the taper, it is respectfully submitted that Platt fails to teach or suggest all of the elements of claim 17.

In addition, claim 17 recites that the nozzle throat be sloped. As noted above with regard to claim 1, Platt fails to teach or suggest this feature. In view of the foregoing, it is respectfully requested that the rejection as to claim 17 be withdrawn.

Claims 19-23 depend from and include the limitations of claim 17 and are believed to be patentable for the same reasons set forth above for claim 17. It is respectfully requested that the rejection of claims 19-23 be withdrawn.

Similar to claims 1 and 17, independent claim 35 recites, *inter alia*, an uninterrupted annular converging contoured restriction upstream of the nozzle throat and a valve needle having a nearly cylindrical area upstream of where the valve needle begins to taper. For the same reasons as stated above, it is respectfully submitted that claim 35 is not anticipated by Platt. No teaching or suggestion could be found in Platt of an uninterrupted annular converging contoured restriction upstream of the sloped nozzle throat. Instead, Platt teaches the converging contoured restriction upstream of a stepped or necked nozzle throat. The sloped nozzle of claim 17 requires surfaces tangent to the direction of fluid flow to inhibit flow separation. The valve in Platt will cause undesirably flow separation proximate the stepped nozzle throat. Moreover, Platt fails to teach or suggest a nearly cylindrical area of the valve needle upstream of where the valve needle begins to taper from upstream to downstream.

From the foregoing, it can be seen that claim 35 is also not anticipated by Platt. It is respectfully requested that the rejection of claim 35 be withdrawn. Claims 37-40, 42, and 44 depend from and include the limitations of claim 35 and are believed to be patentable for the same reasons set forth above for claim 35. It is respectfully requested that the rejection of claims 37-40, 42, and 44 be withdrawn.

Rejection under 35 U.S.C. §103

Claims 9, 10, 27-34, and 41 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Platt in view of U.S. Pat. App. No. 6,105,614 to Bohaychuk et al.

(hereinafter “Bohaychuk”). This ground of rejection is respectfully traversed.
Reconsideration of the rejection in view of the following comments is respectfully solicited.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one skilled in the art, to modify the reference or combine teachings. Any proposed modification cannot render the prior art unsatisfactory for its intended purpose or change the principle of operation of a reference. There must be a reasonable expectation of success and the prior art references must teach or suggest all of the claim limitations. See M.P.E.P. 2143. Conclusory statements cannot be relied on when dealing with particular combinations of prior art and specific claims. The rationale for combining references must be put forth. *In re Lee*, 61 U.S.P.Q.2d 1430, 1433. The Examiner can satisfy the burden of showing obviousness of the combination “only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references”.

In its decision in *In re Lee*, the Federal Circuit reiterated and clarified the principle that a conclusory and ungrounded statement of motivation to combine is legally unacceptable. Specifically, the Federal Circuit noted that conclusory statements regarding motivation to combine are in violation of the PTO’s federal mandate. (*See Lee*, at 1434 (“Omission of a relevant factor [i.e., motivation to combine] required by precedent is both legal error and arbitrary agency action. ... Conclusory statements ... do not fulfill the agency’s obligation...”).) Thus, a simple statement of beneficial results that would follow from a combination is *not* a motivation to actually make the combination. The fact that a combination *can* be made to get the beneficial results that the Applicants disclosed does not amount to a motivation found *in the art* to make that very combination. *See McGinley v. Franklin Sports, Inc.* 262 F.3d 1339, 1351, 60 USPQ2d 1001, 1008 (Fed. Cir. 2001) (“The genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some ‘teaching, suggestion or reason’ to combine cited references.”)

With regard to each of claims 9, 10, 27-34, and 41, it is respectfully submitted that a *prima facie* case of obviousness has still not been established as required by MPEP §2143.03. In particular, the Office Action states that Bohaychuk teaches an inlet that has a cross sectional area adjacent the inlet that is smaller than the cross sectional area of the inlet pipe. Figure 9 of the Bohaychuk reference has been cited in support of this alleged teaching.

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However, it is respectfully submitted that nowhere in Figure 9 of Bohaychuk is there shown an inlet pipe connected to the inlet of the valve. Since there is no inlet pipe shown, no comparison of cross sectional areas can be made and it would be impossible to determine if one cross sectional area is smaller than another as recited in the pending claims. The assertion in the Office Action that a flange is "adapted to connect to a pipe" does not satisfy the requirements of the M.P.E.P.

In particular, M.P.E.P. §2125 indicates that drawings and pictures can anticipate claims if they clearly show the structure which is claimed (*In re Mraz*, 455 F.2d 1069, 173 USPQ 25 (CCPA 1972)). Continuing, the picture must show all the claimed structural features and how they are put together. *Jockmus v. Leviton*, 28 F.2d 812 (2d Cir. 1928). Again, nowhere in Figure 9 of Bohaychuk is there shown an inlet pipe connected to the inlet of the valve and, therefore, no comparison between cross sectional areas can be made.

In view of the foregoing, it is respectfully submitted that the rejection of claims 9, 10, 27-34, and 41 be withdrawn.

In addition to the specific rejections outlined in the present Office Action, many of the same rejections found in the Office Action of June 14, 2005 have been reasserted. Although not specifically recited, the Applicant hereby incorporates by this reference all of the arguments and remarks noted in the Response to Office Action dated October 11, 2005.

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Conclusion

The application is considered in good and proper form for allowance, and the Examiner is respectfully requested to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,



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